

WHAT IS CLAIMED IS:

1. A solid-state image sensor comprising:
unit pixels each having a photoelectric conversion element for converting incident light into electric signal charge and then storing the signal charge obtained through such photoelectric conversion, an amplifying element for converting into an electric signal the signal charge stored in said photoelectric conversion element, and a select switch for selectively outputting the electric signal as a pixel signal from said amplifying element to a signal line;
and

a reset circuit in each of said unit pixels for resetting said photoelectric conversion element every time a pixel signal is outputted from the relevant unit pixel.

2. The solid-state image sensor according to claim 1, wherein said unit pixels are arrayed two-dimensionally to form a matrix of rows and columns.

3. The solid-state image sensor according to claim 2, wherein each of said unit pixels has a reset switch for resetting said photoelectric conversion element, and a reset select switch for on/off controlling said reset switch in response to a reset pulse outputted from said reset circuit; and each of said reset switch and said reset select switch consists of a depletion type MOS transistor.

4. The solid-state image sensor according to claim 3, wherein said reset switch is connected between said photoelectric conversion element and a power supply line, and said reset select switch is connected between a gate electrode of said reset switch and a reset line to which said reset pulse is applied.

5. The solid-state image sensor according to claim 2, wherein said reset circuit is a horizontal scanning circuit for selecting each of said unit pixels per column.

6. The solid-state image sensor according to claim 2, further comprising a horizontal select switch connected between said vertical signal line and a horizontal signal line for outputting, via a common path, a pre-reset signal and a post-reset signal delivered from said reset circuit to said vertical signal line.

7. The solid-state image sensor according to claim 6, further comprising a differential circuit which takes the difference between the pre-reset signal and the post-reset signal outputted from said horizontal select switch to said horizontal signal line.

8. The solid-state image sensor according to claim 7, wherein said differential circuit is a correlated double sampling circuit.

9. The solid-state image sensor according to claim

1, wherein said unit pixels are arrayed linearly in a one-dimensional arrangement.

10. The solid-state image sensor according to claim 9, wherein each of said unit pixels has a reset switch for resetting said photoelectric conversion element in response to a reset pulse outputted from said reset circuit, and said reset switch consists of a depletion type MOS transistor.

11. The solid-state image sensor according to claim 10, wherein said reset switch is connected between said photoelectric conversion element and a power supply line.

12. The solid-state image sensor according to claim 9, wherein said reset circuit is a scanning circuit for selecting each of said unit pixels.

13. The solid-state image sensor according to claim 9, wherein said select switch outputs, via a common path, a pre-reset signal and a post-reset signal delivered from said reset circuit to said signal line.

14. The solid-state image sensor according to claim 13, further comprising a differential circuit which takes the difference between the pre-reset signal and the post-reset signal outputted from said select switch to said signal line.

15. The solid-state image sensor according to claim 14, wherein said differential circuit is a correlated double sampling circuit.

16. A method of driving a solid-state image sensor which comprises unit pixels each having a photoelectric conversion element for converting incident light into electric signal charge and then storing the signal charge obtained through such photoelectric conversion, an amplifying element for converting into an electric signal the signal charge stored in said photoelectric conversion element, and a select switch for selectively outputting the electric signal as a pixel signal from said amplifying element to a signal line; and a reset circuit in each of said unit pixels for resetting said photoelectric conversion element every time a pixel signal is outputted from the relevant unit pixel, said method comprising the steps of:

resetting said photoelectric conversion element every time the pixel signal is outputted from the relevant unit pixel;

delivering a pre-reset signal and a post-reset signal from each unit pixel and transferring such signals via a common transfer path; and

taking the difference between the pre-reset signal

and the post-reset signal.

17. A camera comprising:

an optical system for focusing incident light from an object scene to form an image thereof;

a solid-state image sensor comprising unit pixels each having a photoelectric conversion element for converting the optical image formed by said optical system into electric signal charge and then storing the signal charge obtained through such photoelectric conversion, an amplifying element for converting into an electric signal the signal charge stored in said photoelectric conversion element, and a select switch for selectively outputting the electric signal as a pixel signal from said amplifying element to a signal line, and a reset circuit in each of said unit pixels for resetting the photoelectric conversion element every time a pixel signal is outputted from the relevant unit pixel;

a drive capable of driving said solid-state image sensor; and

a signal processor for processing the output signal of said solid-state image sensor.

18. The camera according to claim 17, wherein said unit pixels are arrayed two-dimensionally to form a matrix of rows and columns.

19. The camera according to claim 18, wherein each of said unit pixels has a reset switch for resetting said photoelectric conversion element, and a reset select switch for on/off controlling said reset switch in response to a reset pulse outputted from said reset circuit.

20. The camera according to claim 19, wherein each of said reset switch and said reset select switch consists of a depletion type MOS transistor.

21. The camera according to claim 19, wherein said reset switch is connected between said photoelectric conversion element and a power supply line, and said reset select switch is connected between a gate electrode of said reset switch and a reset line to which said reset pulse is applied.

22. The camera according to claim 18, wherein said reset circuit is a horizontal scanning circuit for selecting each of said unit pixels per column.

23. The camera according to claim 18, further comprising a horizontal select switch connected between said vertical signal line and a horizontal signal line for outputting, via a common path, a pre-reset signal and a post-reset signal delivered from said reset circuit to said vertical signal line.

24. The camera according to claim 23, further

comprising a differential circuit which takes the difference between the pre-reset signal and the post-reset signal outputted from said horizontal select switch to said horizontal signal line.

25. The camera according to claim 24, wherein said differential circuit is a correlated double sampling circuit.

26. The camera according to claim 17, wherein said unit pixels are arrayed linearly in a one-dimensional arrangement.